indefinite for failing to particularly point out and distinctly claim the subject which applicant regards as the invention. The primary problem cited by the Office is the use of the terms "coprecipitate" and "copolymer" with regards to the films of inorganic species now claimed. As a coprecipitate can clearly be between two inorganic species, and since the Office has not discussed any problems with such a term, it is assumed that the only term labeled "indefinite" by the Office is copolymer. Applicants respectfully remind the Office that as long as the terms are described within the specification, an applicant is permitted to be his own lexicographer. As such, since the terms are used to define such films, there is no indefiniteness problem in this situation. Furthermore, contrary to the Office's assertion that "polymeric" species are the only types of molecules which can be polymerized (and thus defined as copolymers), copolymers can be comprised of any molecules which exist as repeating units and are actually attached together. Applicant hereby provides another definition from Hackh's Chemical Dictionary showing that inorganic-polymers do exist and are well known. Contrary to the Office's position that such a term is repugnant to the usual meaning of a term, then, the utilization of the term "copolymer" for inorganic species is accepted within the scientific community. As such, there simply is no actual problem with indefiniteness or completeness with description to create a problem of understanding to the ordinarily skilled artisan or to question the breadth of subject matter now claimed being in the Applicants' possession at the time this application was filed. Reconsideration and withdrawal of these bases of rejection are thus earnestly solicited.

Furthermore, as it again concerns the term "substantially goethite" in Claim 2, Applicants again explain throughout the specification that production of any one specific type of iron oxide

hydroxide is extremely difficult within the iron oxide hydroxide/aluminum oxide hydroxide coprecipitate or copolymer. This term encompasses the production of as much goethite as possible in the clearest manner possible since other types of iron oxide hydroxide will be formed within the coprecipitate or copolymer; however, it is intended that as much as possible be goethite within this claim. There is no indefiniteness problem as the ordinarily skilled artisan would understand the difficulty, if not impossibility, in producing all goethite as the iron oxide hydroxide component. As for the Office's assertion that "only a small part" of the coprecipitate or copolymer is goethite, such a statement is quite cryptic. Upon review of page 13 of the specification, the only discussion of "small amounts" of components refers to "other metal oxides" present on the textile surface which may modify the color of the textile itself. Such a disclosure does not limit the amount of goethite at all and is the only cite located which concerns descriptive amounts of metal oxides. Further down the page, there is a discussion of the thickness of the coating on the textile substrate; however, even if this is considered "a small part", the fact remains that Applicant has produced and claimed such a coating that comprises an iron oxide hydroxide component that is "substantially goethite" in composition. Reconsideration and withdrawal are respectfully requested.

The remaining issue within this indefiniteness rejection concerns Claim 6 and the term "water filtration article". Such a claim is directed to a water filtration article which comprises a textile as defined in Claim 1. Thus, the claim is more limited than just a textile since it requires that the textile be a component within the water filtration article itself. Applicant fails to understand the lack of understanding on behalf of the Office with regard to such a claim and

requests further elaboration on the basis of rejection, including specific case law on the subject. As it is, it is Applicant's position that such a claim is more limiting than the independent Claim 1 and thus is proper in form. Reconsideration and withdrawl are thus earnestly solicited.

The Office has also retained its rejection of Claims 1-6 under 35 U.S.C. § 103(a) as being unpatentable over Ishino et al. in view of Watanabe et al.. Applicant restates his previous position that this rejection is untenable for a number of reasons. Ishino et al. are directed to the production of a ferrite textile composite comprised of a ferrite powder bound to the surface of a textile with a binder. There is no production of any precipitate or polymer of iron oxide hydroxides (not to mention coprecipitates or copolymers with aluminum oxide hydroxides) anywhere within this document. Applicants have shown that in order to produce such a coprecipitate and/or copolymer specific conditions and additives must be followed. Ishino et al. simply teach, again, a bound ferrite powder to a textile, period.

Nor do Watanabe et al. teach any production of any precipitate or polymer of iron oxide hydroxides (not to mention coprecipitates or copolymers with aluminum oxide hydroxides). Nor do patentees remedy this problem as they are concerned with improving pigment technology for cosmetics. Initially, then, nowhere within either reference or within the combination (if such a combination were somehow considered proper) of the two references is the "invention as a whole" as claimed taught or suggested.

In addition, as alluded to above, due to the disparity of art between these two references, the combination of Watanabe et al. with Ishino et al. is simply improper and thus is not a proper basis of rejection over the pending claims since the teachings of references can be combined only

if there is some suggestion or incentive to do so, ACS Hosp. Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). Where is the motivation that one of ordinary skill in the ferrite powder-coated textile art would have reviewed the cosmetic pigment art for a proper additive within a ferrite powder film? Clearly, such a person would not have performed such a review.

Furthermore, what teaching or suggestion in the applied prior art would there have been for one of ordinary skill in the pertinent art to take the ferrite powder-coated films of Ishino et al. and modify it by introducing a cosmetic pigment additive from Watanabe et al.? Applicant fails to see any such motivation.

Additionally, the aluminum salt of Watanabe et al. is not even a required component of patentees' formulations; the citation of such a salt is in a laundry list of potential additives and thus the presence of such a component is not critical for any distinct purpose. Again, how would one of ordinary skill in the pertinent art be inclined to introduce such an optional salt from a cosmetic pigment formulation within Ishino et al.'s ferrite powder-coated textile composite? Again, such a combination is improper in Applicant's view.

Again, there simply is no motivation to introduce an optional aluminum salt from Watanabe et al.'s solid substrate pigment production methods into Ishino et al.'s ferrite powder-containing electrically conductive textile composite. Watanabe et al.'s salts must be mixed in with other oxides or hydroxides and with the substrate for pigment deposition (glass, etc.). Thus, even if any motivation existed to introduce the aluminum salts of Watanabe et al. within Ishino et al., such a solid substrate pigment as in Watanabe et al. could only be introduced within Ishino et

al.'s teachings by applying that pigment to the ferrite textile composite surface. There would be no way that the ferrite powder would then copolymerize with the aluminum salt (not to mention the required aluminum oxide hydroxide of the present claims) to form the currently claimed coprecipitate or copolymer-coated textile therewith. Therefore, in this respect, again there would be no way this combination could teach Applicants' "invention as a whole" as is required of a proper *prima facie* obviousness rejection. Gillette Company v. S.C. Johnson & Son, Inc., 919 F.2d 720, 724, 16 USPQ2d 1923, 1927 (Fed. Cir. 1990); Jones v. Hardy, 727 F.2d 1524, 1529, 220 USPQ 221, 226 (Fed. Cir. 1984).

Clearly, then, in relation to all of the strata of arguments presented above, the only manner in which the Office actually proffers this basis of rejection is the improper hindsight reconstruction of Applicants' own teachings. It is understood by Applicant that some reconstruction is needed to provide obviousness rejections by the Office; however, the lengths to which the Office has gone to provide this basis of rejection is too far afield to be considered anything but improper in this instance. Reconsideration and withdrawal of this untenable rejection are thus earnestly solicited.

CONCLUSION

In view of all of the previous arguments, it is respectfully submitted that the pending claims are in condition for allowance and it is requested that this application be passed on to issue.

Respectfully submitted,

May 31, 20001

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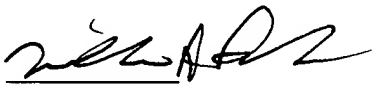
CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to Commissioner for Patents, Washington, DC 20231, on May 31, 2001, along with a postcard receipt.



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polyester. A polymer having structural units linked by ester groupings; obtained by condensation of carboxylic acids with polyhydric alcohols.

polyether. A polymer containing the $-(CH_2-CHR-O-)_n$ linkage in the main chain or side chain.

polyethylene (U.S. usage). Polythene (U.K. usage); (strictly) polymethylene. A member of a series of straight-chain paraffin hydrocarbons of high molecular weight (18,000–20,000), made by polymerizing ethylene at very high pressures, e.g., 30,000 psi, under controlled conditions, m.110–115. Polyethylenes are thermoplastic and can be extruded or molded by injection or compression. World production (1965) 2.8 million tons. **p. glycol.** A polyglycol derived from ethylene glycol. *p.g.—400.* $H(OCH_2CH_2)_nOH$. A condensation product of ethylene oxide and water, where *n* is 8–10. Colorless, hygroscopic liquid, miscible with water; used in ointments (U.S.P.). *p.g.—4000.* Similar to p.g.—400, where *n* is 70–85. A wax, m.54; used in ointments (U.S.P.).

polygalic acid. Polygalin.

polygalin. $C_{32}H_{54}O_{18}$ = 726.6. Polygalic acid. An active principle from *Polygala senega*. Cf. *senega*.

polygamarin. A crystalline bitter principle from *Polygala amara* (Polygalaceae).

polygarskite. Attapulgite (U.S. usage). A hydrated, aluminum-magnesium silicate from Attapulgus, Decatur, Ga., and Ukraine; a drilling mud, fungicide base, and filler.

polygen. An element that forms 2 or more series of compounds; as, chlorine (chlorides, chlorites, and chlorates).

polygenetic. Producing more than one phenomenon. **p. dye.** A coloring material that gives different shades with different mordants. Cf. *monogenetic*.

polyglycol. A dihydroxy ether formed by dehydration of 2 or more glycol molecules, e.g., diethylene glycol.

polygon. A plane figure bounded by 3 or more sides.

Polygonaceae. The buckwheat family of herbs or woody plants; e.g.: *Rheum* species, rhubarb; *Rumex crispus*, rumex *Polygonum bistorta*, bistort.

polygonatum. Solomon's seal.

polygonin. $C_{21}H_{20}O_{10}$ = 432.15. A glucoside from *Polygonatum cuspidatum* (Liliaceae), Japan.

polygraph. A device to record arterial and venous pulse waves simultaneously; used as a lie detector.

polyhalite. $K_2SO_4 \cdot MgSO_4 \cdot 2CaSO_4 \cdot 2H_2O$. A native hydrated sulfate.

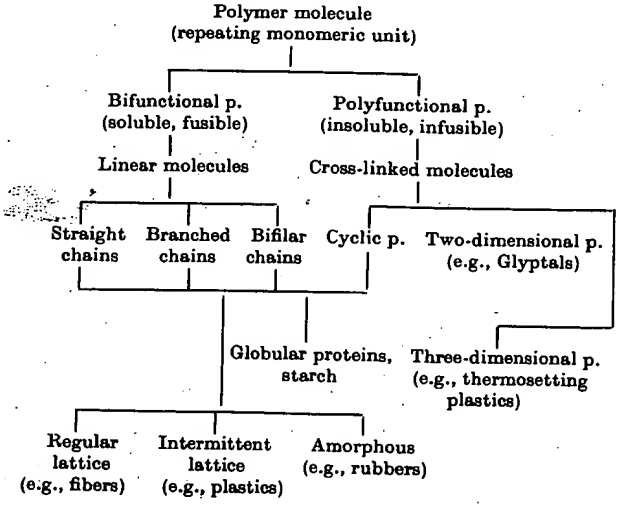
polyhydrate. A compound containing more than 2 molecules of water.

polyhydric. A compound containing more than 2 hydroxyl groups.

polyhydrone. $(H_2O)_x$. A polymer of hydrone, q.v.

polymer. Polymere, polymeride (obsolete). A member of a series of polymeric compounds. A substance composed of very large molecules, which consist essentially of recurring long-chain structural units, which distinguish polymers from other types of organic molecules, and confer on them tensile strength, deformability, elasticity, and hardness. Some 50 units (*monomers*), largely derived from coal and oil, are used to build up such polymers. Considerable modification of properties results on introducing a second type of monomer (B) into the main structure (monomer A), producing a *copolymer*, in which the units A and B are arranged completely at random. Alternatively, the A and B units may be arranged in order of long segments, e.g., ~A–A–A–A–B–B–B–B–B–A–A–A–A~ (*block p.*). There are also *branched* polymers, in which the B units branch from the A units; and *crosslinked* polymers, in which 2 A chains are joined by one or a block of B units. Polymeric molecules are classified below (after Pinner). Examples of *high* polymers are plastics, fibers, rubber, human tissue. Cf. *macromolecular chemistry, elastomer*.

alloy- A p. produced by the simultaneous polymerization of 2 substances. Cf. *silicone alloy*. **blocked-** See above. **branched-chain-** See above. **co-** A composite p. prepared by the polymerization of a mixture of 2 or more monomers, or of a monomer and p. of low molecular weight. Cf. *alloy p. block c.p.* A p. built of linearly linked polymeric units. *random c.p.* A p. having 2 or



more types of units combined in random succession in a linear chain structure. **crosslinked-** See above. **electron-exchange-** Redox p. A polymeric structure having several sites capable of accepting or donating electrons. Thus, modified cellulose with redox properties is used as a catalyst to remove oxygen from water to obtain anaerobic conditions. **graft-** A p. produced by grafting a monomer onto a straight-chain p. to produce a branched-chain p. Thus, a fluorocarbon p. is heated sufficiently to form free radicals on its surface and then dipped into a monomer, e.g., styrene, to produce a graft p. having a printable surface. **high-** A p. of high molecular weight, e.g., containing a large number of structural units. **high-trans-** A rubbery p. in which a large proportion of the C atoms are arranged in a definite pattern that repeats itself consistently in the chain; as, natural rubber. **homo-** A p. having only a single type of repeating unit. **inorganic-** Inorganic structures that form polymers on heating or by catalytic action; as, mica, silicones, inorganic rubber. **isostatic-** A crystalline p. made from α-olefins, in which the substituents in the asymmetric C atoms all have the same configuration relative to the main chain. **linear-** A p. in which the molecules are essentially in the form of long chains. **organized-** A p. having a regular macroscopic structure, without necessarily showing microcrystallinity. Cf. *polyallomers*. **orientated-** A p. film that has been stretched mechanically in 2 directions at right angles to improve its strength properties. **redox-** Electron-exchange p. **super-** A p. in which the polymerized molecules have an average molecular weight exceeding 10,000.

P.R. Trade name for a polyamide synthetic fiber.

polymeric. Related molecularly to an isomeric compound, but having a multiple of its molecular weight; as, acetylene and benzene. See *polymerism*. **p. dialdehyde.** See dialdehyde *starch*.

polymericular weight. The molecular weight of a polymerized molecule of an element.

polymeride. Polymer.

polymerisation. Polymerization.

polymerism. The property of certain organic compounds which have the same percentage composition, but different molecular weights, the heavier being multiples of the lighter. Thus, C_2H_2, C_4H_4, C_6H_6, C_8H_8 are polymeric compounds. See *polymerization*.

polymerization. Describing a reaction in which 2 or more molecules of the same substance combine to form a compound, from which the original substance may or may not be regenerated. Cf. *molecular association*, *hydrone*. **aromatic-** The formation of an aromatic compound from two or more molecules of an aliphatic compound; as, benzene from acetylene. **carbohydrate-** The formation of monosaccharides from formaldehyde: $6HCHO = C_6H_{12}O_6$. See *photosynthesis*. **co-** The structural arrangement, e.g., of rubber, in which 2 or more different monomers or types of group are present in alternate sequence in a chain. **condensed-** P. in which atomic displacement occurs. See *aldol condensation*. **degree of-** (1) The number of times a structural unit occurs in the molecule of a polymer. (2) D.P. A measure of the chain length and molecular weight of cellulose derivatives; determined from the viscosity of the cellulose in cuprammonium solution; e.g.: cellulose acetate 150–250, regenerated cellulose 100–250, sulfite wood pulp 230–310, ramie cellulose 1,000, cotton 750. **photo-** See *photopolymerization*. **true-** P. in which the atoms remain in similar relative positions; as, hexaphenylethane from triphenyl methyl.

polymers. Compounds having the same percentage composition, but containing different numbers of the same atoms.

polymeter. (1) A device to measure 2 or more different physical properties simultaneously. (2) A hygrometer, thermometer, and barometer mounted together.

polymethylene. See *cycloparaffins*, *polythene*. **p. glycols.** A polyglycol derived from methylene glycol, $CH_2(OH)_2$, or from its anhydride (formaldehyde); as, dimethylene glycol. **p. tetrasulfide.** Thiokol.

polymignite. A native lime-niobium oxide containing numerous metallic oxides.

polymixin. An antibacterial polypeptide from *Bacillus polymyxa*, having a unique specificity for gram-negative bacteria. It contains threonine and a branched C_9 fatty acid. Used medicinally as the sulfate (U.S.P., B.P.). **p.A.** Aerosporin. An antibiotic from *B. aerosporus*, similar to p. but containing also *d*-leucine.

polymorph. A substance that occurs in 2 or more different forms.

polymorphism. Ability to crystallize in 2 or more different systems. See *dimorphism*, *isomorphism*.

Polynosic. (From "polymer d'un glucose".) Trademark for viscose rayon fibers having a fibrillar structure.

polynucleated. Polycyclic.

polynucleotide. A complex nucleotide of high molecular weight, e.g., nucleic acids.

polyol. General name for a polyhydroxy compound of the sorbitol type.

polyoxy- Prefix indicating more than 3 oxygen atoms. **p. methylene.** $(CH_2O)_x$. A condensation product of formaldehyde. Cf. *paraformaldehyde*.

polyoxyl-40-stearate. Polyoxyethylene stearate. The monostearate of the condensation product, $H(OCH_2{\cdot}CH_2)_n{\cdot}O{\cdot}CO{\cdot}C_{16}H_{32}Me$, where n is 40. Waxy solid, m.40, soluble in water; used in ointments (U.S.P.).

polypeptides. Compounds of 2 or more amino acids, which contain one or more peptide groups, —CO·NH—. E.g.: dipeptides:
NH_2—R—CO·NH—R—COOH (as, carnosine);
tripeptides:
NH_2—R—CO·NH—R—CO·NH—R—COOH (as, glutatione); tetrapeptides:
NH_2—R—CO·NH—R—CO·NH—R—CO·NH—R—COOH (as, triglycylglycine).
The higher polypeptides resemble the peptones and proteins. A synthetic octodecapeptide (18 molecules of amino acids) has been prepared; theoretically 6,402,373,705,728,000 are possible.

polyphase. Having more than one phase; as, an alternating electric current.

polyphosphides. M_2P_n. Compounds of monovalent metals; as, K_2P_n.